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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/955,969	09/20/2001	Yoshitsugu Hama	2001_1299A	1913
513	7590	10/01/2004	EXAMINER	
WENDEROTH, LIND & PONACK, L.L.P.			MENON, KRISHNAN S	
2033 K STREET N. W.			ART UNIT	
SUITE 800			PAPER NUMBER	
WASHINGTON, DC 20006-1021			1723	

DATE MAILED: 10/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/955,969

Applicant(s)

HAMA ET AL.

Examiner

Krishnan S Menon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 6-14 and 17-19 is/are pending in the application.
- 4a) Of the above claim(s) 9-11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6, 7, 12-14, 17 and 18 is/are rejected.
- 7) ☒ Claim(s) 8 and 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claims 1-3,6-14 and 17-19 are pending. Claims 9-11 are withdrawn from consideration.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3,6,7, 12-14, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goettmann et al (US 5,133,835).

Goettmann et al (US 5,133,835) teaches a support comprising a non-woven fabric with a main fiber and a binder fiber formed of synthetic resin (abstract), manufactured by paper making process (col 1 lines 5-12) and then heating and pressing (col 2 lines 55-61 – calendered), having tensile strength ratio between the machine and transverse direction within 2:1 to 1:1, and air permeability of 0.5-7 cc/cm²/sec (see table II) as in claim 1, and also calendered as in claim 12. The fabric Goettmann teaches in col 2 lines 13-61 is in single layer.

Re the limitations of porosity of 5 to 15 microns in claims 1 and 12: Goettmann et al (US 5,133,835) teaches a support with two different fibers and manufactured by the paper making process and heat-pressed. Goettmann et al (US 5,133,835) teaches all parameters of the non-woven such as material, fiber decitex, tensile strengths, and air

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permeability (abstract, tables) as taught by the instant application, except the porosity of the membrane as being between 5 and 15 microns. It would be obvious to one of ordinary skill in the art at the time of invention that since the non-woven as taught by Goettmann et al (US 5,133,835) has materials and properties similar to what is disclosed by the instant application, and is made by similar methods, the pore size also would be inherently similar. Applicant discloses the air permeabilities and pore sizes as related for the intended property – penetration of casting solution [eg., “On the contrary, when the semipermeable membrane support has an air permeability of not less than 7.0 cc/cm²/sec, or has an average pore size of not less than 15 μ m, the penetration of the (polymer) casting solution into the semipermeable membrane support is too much and thereby, the problem of partial over-penetration of the (polymer) casting solution to the back surface is likely to come up” – see specification page 4, first paragraph]. Where applicant claims a composition in terms of a function, property or characteristic and the composition of the prior art is the same as that of the claim but the function is not explicitly disclosed by the reference, the examiner may make a rejection under both 35 U.S.C. 102 and 103, expressed as a 102/103 rejection. “There is nothing inconsistent in concurrent rejections for obviousness under 35 U.S.C. 103 and for anticipation under 35 U.S.C. 102.” In re Best, 562 F.2d 1252, 1255 n.4, 195 USPQ 430, 433 n.4 (CCPA 1977). This same rationale should also apply to product, apparatus, and process claims claimed in terms of function, property or characteristic. Therefore, a 35 U.S.C. 102/103 rejection is appropriate for these types of claims as well as for composition claims.

The main fiber is polyester (col 2 lines 25-30) with fineness is between 0.6 and 8.9 decitex (tables); (1 denier = 1 gm for 9000m fiber as opposed to 1 decitex = 1g for 10,000 m.) as in instant claims 2, 13, 3 and 14;. The support would be capable of preventing bending in the width direction during manufacture of the semipermeable membrane, since it meets the tensile strength requirements (table III) as in instant claim 6 and 17. Tensile ratio is between 1.5:1 and 1:1 as in claim 7 and 18(table II). Goettmann et al (US 5,133,835) teaches a support made by heating and pressing after paper making (col 2 lines 13-25) with tensile strength ratio 1:1 (table II).

Allowable Subject Matter

Claims 8 and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Goettmann'835 and Shinjou'559 are the closest references. Claims 8 and 19 recite the added limitation of one surface having 15% or more surface roughness than the other surface of the fabric, which is not taught by the reference Goettmann. Shinjou ref, even though teaches a fabric with two different surface characteristics, the reference does not anticipate or make obvious the instant claims because it teaches a laminated fabric. It would also be not obvious to combine the two references to arrive at this limitation because Shinjou ref does not directly teach nor suggest such a characteristic for improved anchor effect of the membrane.

Response to Arguments

Applicant's arguments, see response, filed 9/22/04, with respect to the rejection(s) of claim(s) 1-3, 6, 7, 12-14, 17 and 18 under 35 USC 103(a) over Goettmann have been fully considered and are not persuasive.

(1) Argument that Goettmann does not teach the porosity as between 5-15 microns: this point was discussed in the prior office actions, and also made very clear in the rejection. Applicants need to provide convincing evidence to overcome the prima facie showing of obviousness.

(2) Argument re the preamble of the claim: the 'semipermeable membrane support' in the preamble does not give any special life or meaning for the claim, or further limit the claim unlike in the cited case law *Kopra v. Robie*. At best, it would be only intended use, which is not patentable. In the cited case law, the invention was an abrasive fabric; in this instance, the invention is not a semipermeable membrane, but a fabric. [Preamble does not limit scope of the claim if it merely states invention's purpose or intended use, but terms appearing in preamble may be deemed limitations if they give meaning to claim and properly define invention; patent should be reviewed in its entirety to determine whether inventor intended preamble language to represent additional structural limitation or mere introductory language: *In re Paulsen* 31 USPQ2d 1671]

(3) Argument that Goettmann teaches fabric having, among others, cellulosic fibers: Goettmann teaches a fabric that has cellulose, like wood pulp, but they are not fibers, and Goettmann does not describe them as fibers. With re to applicants'

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argument that cellulosic would defeat the applicant's purpose of providing semipermeable membrane support due to several reasons: this is purely conjecture, and applicants have not provided any evidence to that effect. On the contrary, cellulose is used as membrane and membrane support materials in membranes for almost all applications (reverse osmosis, UF, NF, MF, gas separation, petrochemicals, etc). Argument that Goettmann fabric has many other applications also does not make it any less a reference. It may be noted that applicants disclose adding, among other things, hydrophilic agents (cellulose is a hydrophilic agent) to improve the non-woven fabric (page 8 lines 5-8), which would give the exact same effect the applicants argue as undesirable – expand during water separation.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krishnan S Menon whose telephone number is 571-272-1143. The examiner can normally be reached on 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L Walker can be reached on 571-272-1151. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Krishnan Menon
Patent Examiner


W. L. WALKER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700